

**Notice of Allowability**

Application No.

09/957,054

Examiner

Natalia Figueroa

Applicant(s)

FAIRCHILD, STEVEN E.

Art Unit

2651

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to after final (filed 28 April 2005).
2. ☒ The allowed claim(s) is/are 1,3-7,9-17,19-24,26-28,30 and 31.
3. ☒ The drawings filed on 28 April 2005 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

## REASONS FOR ALLOWANCE

### *Allowable Subject Matter*

1. Claims 1, 3-7, 9-17, 19-24, 26-28, 30 and 31 are allowed.
2. The following is an examiner's statement of reasons for allowance:

RE claim 1, the prior art of record, and in particular Kawamoto (USPN 5,590,298), fails to teach or suggest an apparatus comprising a write stack drive to receive said write command and to store write operations within said write command with write stack operations on a non-volatile cache memory which acts as a stack memory.

RE claim 7, the prior art of record, and in particular Kawamoto (USPN 5,590,298), fails to teach or suggest an apparatus comprising a write stack drive comprising a non-volatile cache stack memory having a plurality of tracks, wherein said plurality of tracks store data from write stack operations for said write commands.

RE claim 13, the prior art of record, and in particular Kawamoto (USPN 5,590,298), fails to teach or suggest a system comprising a write stack drive within said disk drive to receive said write command, wherein said write stack drive comprises a non-volatile cache stack memory to perform write stack operations for said write command.

RE claim 17, the prior art of record, and in particular Kawamoto (USPN 5,590,298), fails to teach or suggest a method comprising performing write stack operations for write operations within said write command on a non-volatile cache memory within said write stack drive; and executing said write operations within a normal drive with data stored in said write stack operations; and responding with a command complete upon completion of said write stack operations.

RE claim 24, the prior art of record, and in particular Kawamoto (USPN 5,590,298), fails to teach or suggest a method comprising performing write stack operations for said write command on a non-volatile cache memory with said write stack drive, wherein said write stack operations store said data on tracks of said non-volatile cache memory; receiving said write command at a normal drive; executing write operations at said normal drive with said data; and indicating from said write stack drive to said array controller that said write command is complete.

RE claim 28, the prior art of record, and in particular Kawamoto (USPN 5,590,298), fails to teach or suggest a method performing a write stack operation to store said data within a non-volatile cache memory within said write stack drive; sending said data to said normal drive; and committing said data to an LRU cache.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### *Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Figueroa whose telephone number is (571) 272-7554. The examiner can normally be reached on Monday - Thursday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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DAVID HUDSPETH  
SUPERVISORY PATENT EXAMINER  
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